**Research papers by scientists**

†2067. SHRIMATI SUSHMA SWARAJ: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether it is a fact that one decade ago the number of research ' papers published by Indian scientists were more than the number of research papers published by Chinese scientists;

(b) whether it is also a fact that this number has reduced to less than half of Chinese scientists;

(c) whether it is also a fact that in order to solve this problem, the Director General of CSIR has proposed to open more USER (Indian Institutes of Science Education and Research); and

(d) if so, Government's view on this proposal?

THE MINISTER OF SCIENCE AND TECHNOLOGY (SHRI KAPIL SIBAL): (a) and (b) Yes, Sir. A decade ago, in 1996, the number of papers published by scientists in India and China were 11177 and 10157 respectively. In 2005, however, India scientists published 19448 papers in comparison to 53513 papers by the Chinese scientists.

(c) and (d) the Scientific Advisory Council to the Prime Minister has recommended the setting up of Indian Institutes of Science Education and Research (USER) in the country. The Government has recently set up three IISERs at Kolkata, Pune and Chandigarh to give a boost to promotion of basic research in the country. These new institutions, apart from carrying out frontline and internationally competitive research, would offer integrated M.Sc programmes in a multi-disciplinary and academically flexible and research-oriented environment.

**Rajiv Gandhi Centre for Bio-Technology**

2068.SHRI NANDI YELLAIAH: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether Rajiv Gandhi Centre for Bio-technology at Thiruvananthapuram has developed a drug based on a "one time ayurvedic remedy" to fight the side effects of radiation in the case of cancer patients;

†Original notice of the question was received in Hindi.

(b if so, the details thereof;

(c) whether it is a fact that if this drug is patented and sold in the market, it could be sold for 50 paise, whereas a similar drug in U.S.A. is at present sold @ 200/- (Two Hundred) Dollars;

(d) if so, whether Government would take expeditious steps to market the drug at the earliest, buy immediately patenting it; and

(e) if not, the reasons therefor?

THE MINISTER OF SCIENCE AND TECHNOLOGY (SHRI KAPIL SIBAL): (a) and (b) Yes Sir. Investigators at the Rajiv Gandhi Centre for Bio-technology and Regional Cancer Centre Thiruvananthapuram have developed an ayurvedic mouthwash consisting of three commonly used medicinal herbs for controlling radiation associated mucositis in patients with oral cancer. However it is not a one time remedy but repeated doses have to be taken during the course of the treatment. A clinical study funded by the Department of AYUSH has been done to find the effectiveness of the ayurvedic mouthwash in reducing the severity of oral mucositis in patients undergoing radical radiotherapy for oral cancers. A total of 148 patients with oral cancer undergoing radiotherapy with or without chemotherapy were randomized; 75 in the study arm and 73 in the control arm. Oral mucositis was observed to the significantly less in the study arm at Day 15, Pain due to mueositis and the analgesic requirement was also observed to be significantly less in the study arm as compared to controls.

(c) The approximate production cost in an experimental set up has been estimated to be 65 paise per dose excluding packaging and marketing costs. The commonly used drug to control mucositis called Amifostine (Ethyol) costs approximately Rs. 9000 per dose (single injection half an hour before radiation).

(d) and (e) The investigators have filed a patent application. The results of the patent application are awaited.

**Investment in Research and Development**

2069. SHRI MOINUL HASSAN: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) the ratio of scientists among ten lakh population in India, China and other countries; and